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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LAM, DANIEL K

ART UNIT

PAPER NUMBER

2667

DATE MAILED: 11/03/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/603,354

Applicant(s)

CHAPMAN ET AL.

Examiner

Daniel K Lam

Art Unit

2667

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- * 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17, 19-35, and 37-53 is/are rejected.
- 7) ☒ Claim(s) 18 and 36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 14-15, 29-31, and 48-52 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 14, it is not clear what the format of the weighting factor is within the timeslot allocation vector for indicating a preference rating for the particular timeslot. Claims 29 and 48 have same problem.

In claim 15, it is not clear how the timeslot allocation controller dynamically allocates timeslots in relationship to the first and second input frame patterns. Claims 30 and 49 have same problem.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 19, 32, 33, 37, and 53 are rejected under 35 U.S.C. 102(b) as being anticipated by Newman et al.

Regarding claims 1, 19, 32, 37, and 53, Newman et al. discloses an apparatus, a method for preventing collisions between traffic units, and transmission nodes for use in an ATM network comprising:

- a first input for receiving traffic units characterized by a first traffic pattern (see fig. 1 reference 8 and col. 6, lines 40-49),
- a second input for receiving traffic units characterized by a second traffic pattern (see fig. 1 reference 8 and col. 6, lines 40-49),
- a traffic detection unit coupled to the first and second inputs monitoring traffic units received at the first and second inputs for detecting the first and second traffic patterns (see fig.4 references 14-0 and 14-1, fig. 5 reference 14-0, and col. 9, lines 25-30), and
- a notification unit for generating a control signal for transmission to either one of the first and second points on a basis of the first and second traffic patterns detected by the traffic detection unit, the control signal being directive to regulate at least in part the traffic pattern of the traffic units sent from either one of the first and second source points such that a possibility of collision between the traffic units sent from the

first source point and the traffic units sent from the second source point is reduced
(see fig. 4 references 15-0 and 15-1, fig. 5 reference 15-0, and col. 9, lines 25-30).

Regarding claim 33, Newman et al. further discloses that, in his network, the control signal generated by a particular transmission node and sent to a particular source point is updateable by other transmission nodes located along a communication path established between the particular transmission node and the particular source point, for regulating at least in part the traffic pattern of the traffic units sent from the particular source point such that the possibility of collision at the other transmission nodes located along the communication path is reduced (see fig. 1, col. 5 , lines 14-24, and col. 6, lines 29-33).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 20, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newman et al. in view of Hayashi.

Regarding claims 2, 20, and 38, Newman et al. discloses claim limitations for an apparatus, a method for preventing collisions between traffic units, and transmission

nodes for use in an ATM network as discussed in the previous paragraph regarding claims 1, 19, and 37. However, Newman et al. does not disclose the claim limitation that traffic units are selected from the group consisting of user data units, control units and compound units including a user data part and a control part. Hayashi shows traffic units with frame format consisting of data field (see fig. 2 reference DATA FIELD and col. 7, lines 1-8), control field (see fig. 2 CONTROL FIELD and col. 7, lines 1-8) and compound data field with a user data part and a control part (see fig. 4 references Cn, Dn, and Rn, and col. 8, lines 5-9).

Therefore, it would have been obvious to those having ordinary skill in the art to format a frame into different parts with different functions for the following reason. Frame formatted into different parts can enable a transfer sequence to be set according to the condition of the transmission network and provide a superior, reliable, and flexible data communication system as taught by Hayashi (see col. 2, lines 37-40).

7. Claims 3-10, 21-25, and 39-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newman et al. in view of Hayashi and further in view of Peltola et al.

Regarding claims 3, 4, 21, 22, 39 and 40, Newman et al. and Hayashi disclose claim limitations for an apparatus, a method for preventing collisions between traffic units, and transmission nodes for use in an ATM network as discussed in the previous paragraph regarding claims 2, 20, and 38.

However, Newman et al. and Hayashi do not teach the claim limitation that the first and second frame patterns including a plurality of timeslots in which user data units are sent,

each timeslot being associated with a unique sequence identifier, and each timeslot is associated with a control unit including sequence identifier for the timeslot. Peltola et al. discloses a multi-slotted frame format (see fig. 4 references ADDRESS, INFORMATION, and FRAME CHECK fields) with a unique sequence identifier for each slot (see fig. 4 reference DLCI and col. 3, lines 63-67).

Therefore, it would have been obvious to those having ordinary skill in the art to divide a frame into different slots and assign a unique identifier to each slot for the following reason, in addition to the reasons discussed in the previous paragraph regarding claims 2, 20, and 38. By identifying each slot with a unique identifier, virtual connection can be prioritized in order to provide a congestion management method that is reliable and capable of rapid responding to changing network resources and user service level requirements (see abstract section, lines 3-17 of Peltola et al).

Regarding claims 5, 23, and 41, Newman et al. and Hayashi disclose claim limitations for an apparatus, a method for preventing collisions between traffic units, and transmission nodes for use in an ATM network as discussed in the previous paragraph regarding claims 4, 22, and 40. Hayashi et al. further discloses the claim limitation that the control unit further includes data indicative of the source and destination points for user data units contained in the timeslot (see fig. 2 references DA and SA, and col. 7, lines 1-4).

Regarding claims 6 and 7, Newman et al. and Hayashi disclose claim limitations for an apparatus for use in an ATM network as discussed in the previous paragraph regarding

claim 5. Newman et al. further discloses the claim limitations that the traffic detection unit detects the first frame pattern on a basis of a control unit received from the first source point at the first input, and detects the second frame pattern on a basis of a control unit received from the second source point at the second input (see fig. 4 references 14-0 and 14-1, and col. 8, lines 65-67).

Regarding claims 8, 24, and 42, Newman et al. and Hayashi disclose claim limitations for an apparatus, a method for preventing collisions between traffic units, and transmission nodes for use in an ATM network as discussed in the previous paragraph regarding claims 7, 23, and 41. Newman et al. further discloses the claim limitation that the apparatus includes an output communication link (see fig. 4 references 15-0 and 15-1, and col. 8, line 8 to col. 9, line 2) for forwarding traffic units received at the first and second inputs to a particular destination point, the apparatus transmitting traffic units over the output communication link on a basis of a local frame pattern (see fig. 5 reference 51 and col. 9, lines 42-47).

Regarding claims 9, 10, 25, 43, and 44, Newman et al. and Hayashi disclose claim limitations for an apparatus, a method for preventing collisions between traffic units, and transmission nodes for use in an ATM network as discussed in the previous paragraph regarding claims 8, 24, and 42. Newman et al. further discloses the claim limitations that:

- the traffic detection unit includes a machine readable storage medium holding a data structure and maps each one of the first and second frame patterns to the local frame pattern and store the maps in the data structure (see fig. 5 reference 51 and col. 9, lines 42-47), and
- the notification unit is operative to generate the control signal on a basis of the contents of the data structure (see fig. 5 references 20-n, 15-0, and 18-0, and col. 9, lines 48-50).

8. Claims 11-13, 26-28, and 45-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newman et al. in view of Hayashi, further in view of Peltola et al., and furthermore in view of Chien et al.

Regarding claims 11, 26, and 45, Newman et al., Hayashi, and Peltola et al. disclose claim limitations for an apparatus, a method for preventing collisions between traffic units, and transmission nodes for use in an ATM network as discussed in the previous paragraph regarding claims 10, 25, and 44.

However, Newman et al., Hayashi, and Peltola et al. do not teach the claim limitations that the control signal generated by the notification unit conveys a timeslot allocation vector that provides a status indication for each timeslot of the local frame pattern for the output communication link. Chien et al. discloses a timeslot allocation vector in the forward channel with a busy/idle indicator in each timeslot (see fig. 4 references Ta and B/I, and col. 2, lines 11-16).

Therefore, it would have been obvious to those having ordinary skill in the art to provide a status indication for each timeslot so that, in addition to the reasons discussed in the previous paragraph regarding claims 3, 21, and 39, the remote receiver can detect the slot is free before transmitting its data (see col. 2, lines 6-10 and lines 15-20).

Regarding claims 12, 13, 27, 28, 46 and 47, Newman et al., Hayashi, and Peltola et al. disclose claim limitations for an apparatus, a method for preventing collisions between traffic units, and transmission nodes for use in an ATM network as discussed in the previous paragraph regarding claims 11, 26, and 45. Newman et al. further discloses the claim limitations that the timeslot allocation vector is indexed on a basis of the mapping between the first frame pattern and the local frame pattern, and between the second frame pattern and the local frame pattern (see fig. 5 reference 51 and col. 9, lines 42-47).

9. Claims 17, 34, 35, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newman et al. in view of Bisson et al.

Newman et al. discloses claim limitations for an apparatus, transmission nodes for use in an ATM network, and computer readable storage medium as discussed in the previous paragraph regarding claims 1, 33, and 50. However, Newman et al. does not disclose the claim limitation that the apparatus is a switching node in an optical network. Bisson et al. discloses a synchronous optical network comprising 16 switching transmission nodes and four-fiber BLSR capability (fig. 4 reference 10 and col. 6, lines 54-58).

Therefore, it would have been obvious to those having ordinary skill in the art to deploy the apparatus in a switching node in an optical network so that numerous advantages of data transmission through fiber optic systems, such as high bandwidth capacity and long communication distances without repeaters or regenerators can be realized (see col. 1, lines 39-47).

Allowable Subject Matter

10. Claims 14-16, 29-31, 48-50, and 52 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
11. Claims 18 and 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel K. Lam whose telephone number is (703) 305-8605. The examiner can normally be reached on Monday-Friday from 8:30 AM to 4:30 PM.

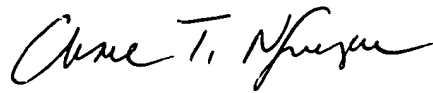
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If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (703) 305-4378. The fax phone number for this Group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

DKL

Oct 27, 2003



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